SSUE No.4
March 85

« X I L O G »

Price
free to memi

THE OFFICIAL NEWSLETTER OF THE AUCKLAND VZ 200 USERS GROUP

Introduction

This month's 'XILOG' sees a few changes to what has been done Previously . Steve Southon is now writing the main Part of it and therefore all 'XILOG' contributions should be sent to him at the following address... 347 Pakuranga Rd , Pakuranga ,AKL (Ph 567 951). I take this opportunity to stress how important it is to learly mark your name on any cassettes that you send in so that they can be returned. If you have sent a cassette in and have not received it back then give me a call so that I can locate and return it .

A section of this month's issue is intended to act as a guide for Steve as to what he should be Putting in 'XILOG' so it would be appreciated if you would fill it out (not leaving any gaps) and return it to him either at the next meeting or at the above address.

John Hansen is organising a library of books & mags for club members to borrow which will be done on a donation basis , so if you have any magazines or books that you have finished with (not necessarily connected with the VZ200) then Please bring them to the next meeting so that John can get this library going.

That about wraps things up for this month.

J.BISH

Competition

This month we start a new column in 'XILOG', Monthly Challenge. This is a column in which we set a challenge each month for members to solve, to which we offer a Prize. The Problems will need the aid of your VZ200 to solve.

This month's challenge requires you to Produce a Logo for the Auckland VZ200 Users Group using 'high resolution' graphics on your VZ200.

The results will be judged on the way the Program is written, as well as the Presentation. The graphics may be animated and sound may also be used.

The Prize for the winner is two blank C60 cassettes. We also reserve the right to Publish the results in a future issue.

Send your entry (on a labelled cassette Preferably) to

'XILOG CONTRIBUTIONS'
347 Pakuranga Rd
Pakuranga
AUCKLAND

Your tapes will be returned at meetings, or with the next newsletter, or on receipt of a SAE envelope we will Post it out.

REVIEW

Over the next few months, I hope to review most of the software titles available from *D.S.E* for the *VZ-200*. However before I start, I would like to point out that these reviews will be based on my opinion only and should you disagree with the comments I make, then please voice your opinion through the '*Mailbag*' section of '*XILOG*'.

To start with, this month I'll take a general overview of the software range available for the *VZ200*.

There are approxmiately 50 titles available for the *VZ200* from *D.S.E*, seven of which have been recent additions. Much of this software however is revamped editions of 'Wizzard' and 'System 80' software. 'Ghost Hunters' for example, was available for the 'System 80' under the same name.

Approxmiately half of the *VZ200* software range requires the additional 16k of RAM, which limits the range considerably for users of the unexpanded computer.

The software range follows the usual format of approxmiately 45% games, 35% educational and utilities, 20% business/financial.

In the area of games, there are of course take-offs of the golden oldies- 'PAC-MAN', 'FROGGA' and of course 'SPACE INVADERS' (boring). In fact, on first viewing much of the games software I felt I had seen it a thousand times before, 'Circus' perhaps being the exception.

In the lines of educational and utility software there are some interesting packages. Here we find software to suit a wide age range.

Business and financial software is where the *VZ200* appears to fall flat on its face, with the only package that offers value for money being 'VZ Wordprocessor'

Well that's my broad opinion of the range of software available from Dick Smith Electronics for the *VZ200*. Next month I'll be taking a closer look at a few of the titles.

Julian Bish

Buy «Sell» Exchange

John Hansen would like to sell some of his *Dick Smith Electronics* 16k *VZ200* software. He will sell *Matchbox*, *Blackjack*, *Hangman* and *Dynasty Derby* for $30 the lot, or he will sell them separately at $10 each. Phone John on 687-815.

Marc Atkinson is looking for a Centronics style printer interface for his *VZ200*. Phone Marc on 863-936 if you can be of help.

Julian Bish has a GP100A 80 column printer for sale. This printer is completely compatible with all inverse video characters as well as being able to dump the high-resolution screen. Julian will sell the 3 month old printer, a spare ribbon, *VZ200* printer interface, and heaps of paper for $600 ono. Phone Julian on 562-166 if you have any enquiries.

Peter Cunningham would like to sell his *VZ200* computer, *VZ* Datasette, 16k memory module, 3 books and 4 tapes for $450 ono. If you would like to purchase the above, or know someone who would, then phone Peter on 267-7078.

PROGRAMMING HINTS

Here is a list of programming tips I have found or discovered over the years. Some of these hints are not only applicable to the *VZ200*, but to many other computers.

1. To squeeze more into the small 2 line limit of BASIC programming lines, you can substitute *PRINT*s for a ?, and change all *THEN*s to commas. When listed, the question marks expand to the actual word '*PRINT*'. This expansion may take up more than the allowed two lines, so care must be taken when editing, because anything exceeding the two line limit will be truncated when entered. Changing the *PRINT*s back to question marks and deleting the space after the line number will allow you to enter it again without any problems.

2. Many poeple complain about the slow execution times of BASIC programs. By organising programs in a logical way, execution time may be decreased quite considerably.

For example, by putting commonly used subroutines at the start of the program, rather than at the end, speeds up programs. Similarly, putting routines used least at the end, such as instructions also helps.

3. Keeping variable names to the two character recognition limit means the computer does not have to read more characters than necessary. This also saves memory and space in the 2 line limit. Since the computer only recognises the first two characters of the variable name, it is wasteful (apart from human use) to use longer variable names.

4. Using fewer variables also speeds up execution. When variables are first assigned, they are placed in a look-up table, along with their values, for future reference. The more variables in the table, the further the computer must look for a variable, and therefore, the longer it takes to find a value. So try to use, where possible, the same variable names in *FOR/NEXT* loops, *INKEY$* statements etc. The fewer variables defined, the quicker the machine will find a variable's value.

5. Defining commonly used variables first can also make a marked difference in program speed. For example, if you were writing a Car Race type program, it would be a good idea to define the car position variables first, before any other variables are mentioned. The computer will then place these on the top of its look up table, so it will find them first when it goes to find a variable's value.

6. Keywords such as *IF*, *THEN*, *RESTORE*, *RETURN* all take up one byte of memory. All other characters, including the remarks after *REM* statements and spaces, also take up one byte of memory. So deleting *all* unnecessary spaces and *all REM* statements can save a lot of memory, especially if you are prone to separate each word by a space and document your program with multitudes of *REM*s!

7. When used in conjunction with a *THEN*, *GOTO*'s may be deleted. Similarly *THEN*'s may be deleted when followed by a *PRINT*. This may allow you to squeeze more onto a line. One thing to watch is *ELSE*'s, because each *ELSE* must have a corresponding *THEN*.

8. Programmers wanting to store data to tape in programs such as in business applications tend to lose interest when they find out how slow this method is. Take the following subroutine which places 60 pieces of data in array D, onto cassette:

```
100 FOR A = 1 TO 60
110 PRINT#"DATA",D(A)
120 NEXT A
```

When the computer executes this, it will send about three seconds of tape formating header for the computer to recognise on loading, then send the filename and finally the data. It will repeat this 60 times! A much better program would be:

```
100 FOR A = 1 TO 60 STEP 6
110 PRINT#"DATA",D(A),D(A+1),D(A+2) ,D(A+3),D(A+4),D(A+5)
120 NEXT A
```

Now it will only send out a header 10 times, instead of the 60 times previously, saving about 3 minutes!

9. If you have ever tried to animate shapes in 'hi-resolution' graphics using *SET* and *RESET*, then you will realise how slow this method is. A much better method is to *POKE* the graphics into the screen memory. This method is generaly much quicker when drawing big blocks of characters. It also tends to use less memory.

The screen memory in hi-resolution mode occupies addresses from 28672 to 30720. It is easy to follow if you are familiar with binary. That is: 1 byte is made of 8 bits, each bit being a zero or a one.

One byte is: |7|6|5|4|3|2|1|0|

To convert from binary to decimal, multiply each bit by the power of 2-

eg. 10000101 = 2↑7+2↑3+2↑1=133 decimal

So what has this to do with the graphic screen? Four pixels are controlled by each byte of screen memory. It is easier to understand by breaking the byte into separate bits.

Bit 7 and bit 6 make up pixel 0. Bit 5 and bit 4 make up pixel 1. Bit 3 and bit 2 make up pixel 2. Bit 1 and bit 0 make up pixel 3.

The reason for two bits (1/2 a nibble?) is the colour selection. It depends on what background colour you are using to select which half of the colours you get.

```
Green  = background 0 + bit pattern 00
Yellow = background 0 + bit pattern 01
Blue   = background 0 + bit pattern 10
Red    = background 0 + bit pattern 11
             and
Buff   = background 1 + bit pattern 00
Cyan   = background 1 + bit pattern 01
and so on.
```

Each line of pixels takes up 128/4=32 bytes of memory. The screen looks as follows:

```
TL 28672:28673......28702:28703 TR
   28704:28705......28734:28735
     :     :       :       :     :
     :     :       :       :     :
     :     :       :       :     :
   30657:30658......30687:30688
BL 30689:30690......30719:30720 BR
```

So to draw a line in yellow around the border:

```
10 MODE(1):COLOR,0
20 FOR A = 28762 TO 28703: REM top line addresses
30 POKEA,85 : REM bits 6+4+2+0=64+16+4+1
40  POKEA+2016,85:  REM  botton line address is 2016 more than the top
line
50 NEXTA
60 FOR A = 28704 TO 30657 STEP 32: REM  the left hand side from 1 line
below top to 1 line above bottom
70 POKEA,64: REM bit 6 only
80 POKEA+31,1: REM right side is 31 bytes more than left, bit 0 only
90 NEXTA
```

These tips should help to speed up programs and make them more memory efficient. If you have any hints you may have discovered, then send them along to:

Xilog Contributions
The Auckland VZ200 Users Group
347 Pakuranga Rd,
Pakuranga

Survey

Now that 'XILOG' has become more established, it was decided to run a survey to see what you would like to see in your magazine. Please fill in the following questionaire and send it to 'XILOG CONTRUBUTIONS' (347 Pakuranga Rd), or bring it along to the next meeting.

PLEASE GIVE FULL ANSWERS TO ALL QUESTIONS

CONTENTS

Which columns do you prefer ?

What columns would you like to see ?

Would you be prepared to contribute to these columns ?

Would you be prepared to write a column every month (if so, what) ?

Would you support and participate in monthly competitions ?

Do you type in listings ? Which ones ?

Do you want listings published ?

Would you support the idea of putting programmes on tape and selling these tapes to members ?

If so, what would you consider to be a reasonable cost ?

If not, why not ?

Do you have any alternative suggestions ?

FORMAT

Have you any suggestions to improve the layout of 'XILOG' ?

Would you object to the use of compressed print (i.e the print used in the 'Shootout' listing of the 1st XILOG.) for articles and other text.

COMMENTS

Have you any suggestions for 'XILOG' ?

Have you any suggestions for meetings ?

Have you any comments on the future of the club ?

YOUR PARTICIPATION IN THIS SURVEY WOULD BE GREATLY APPRECIATED